

What is claimed is:

1. A method for making an optical fiber preform comprising the steps of:
 - providing relative reciprocating motion between at least one soot producing burner and a consolidated glass rod;
 - depositing a first layer of glass soot along a length of the consolidated glass rod at a first traverse rate in a first direction;
 - depositing a second layer of glass soot onto the first layer of glass soot at a second traverse rate in the first direction without sintering; and
 - wherein the first traverse rate is greater than the second traverse rate.
2. The method according to claim 1 wherein the first traverse rate is at least about 7 cm/s.
3. The method according to claim 2 wherein the first traverse rate is at least about 10 cm/s.
4. The method according to claim 1 wherein a thickness of the first layer of glass soot is at least about 5 mm.
5. The method according to claim 4 wherein the thickness of the first layer of glass soot is between about 5 mm and 20 mm.
6. The method according to claim 1 wherein a traverse rate in a second direction opposite the first direction is greater than the first traverse rate in the first direction.
7. The method according to claim 6 wherein a deposition rate during a traverse in the second direction is substantially zero.

8. The method according to claim 1 wherein the step of depositing a second layer of glass soot comprises depositing soot with at least two soot deposition burners.
9. The method according to claim 8 further comprising operating the at least two burners under conditions such that a temperature of a flame of a second burner of the at least two burners is less than a temperature of a flame of a first burner of the at least two burners.
10. The method according to claim 1 wherein the step of depositing the first layer of glass soot comprises combusting a fuel, wherein the fuel is substantially free of hydrogen.
11. The method according to claim 1 wherein the step of depositing the first layer of glass soot comprises depositing soot onto a glass rod having a diameter of at least about 28 mm.
12. The method according to claim 11 wherein the step of depositing the first layer of glass soot comprises depositing soot onto a glass rod having a diameter of at least about 32 mm.
13. The method according to claim 1 wherein the step of providing relative reciprocating motion comprises attaching the glass rod to a movable support and traversing the movable support relative to the at least one burner.
14. The method according to claim 13 further comprising applying a damping force to a movement of the movable support at a turnaround point by moving a piston through a viscous fluid.
15. An apparatus for depositing soot onto a glass rod comprising:
 - at least one glass soot producing burner;
 - a movable support for mounting a glass rod; and
 - at least one damping device comprising a piston and a viscous fluid mounted for cooperation with the support and aligned to inhibit a movement of the support at a first

turnaround point.

16. The apparatus according to claim 15 wherein the damping element stores kinetic energy from the movable support and then releases it at about the turnaround point.